

# User's Manual SRP-350/352plusIII

## Thermal Printer Rev. 1.03



http://www.bixolon.com

## Safety Precautions

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.





## CAUTION

Violating following instructions can cause slight wound or damage the appliance.



## Warning - U.S.A

#### i) Class A Digital Device : Wired Device

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### ii) Class B Digital Device : Wireless Device

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications, However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

iii) Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

iv) Caution: Exposure to Radio Frequency Radiation.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

## Notice - Canada

i) Class A Digital Device : Wired Device

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

Get appareil est conforme aux normes class "A" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

#### ii) Class B Digital Device : Wireless Device

This Apparatus complies with class "B" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

Get appareil est conforme aux normes class "B" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

## Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

## Waste Electrical and Electric Equipment (WEEE)



This marking shown on the product or its literature, indicates that is should not be disposed with other household wastes at the end of its working life, To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or

their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

## Rating Label Symbol Information



## Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.



- \* Control Label: PC
- \* Other Labels: PET

## Introduction to Product

SRP-350/352plusIII series printers have been designed to be connected to various types of electronic devices such as ECR (Electronic Cash Register), POS (Point Of Sales), and computer peripheral devices.

Major features of the printer are as follows.

- 1. Print at a max. speed of 300mm/s(180 dpi)
- 2. Low noise thermal printing
- 3. Support of USB & Ethernet (built-in type), serial, parallel, POWERED USB, Wireless LAN, and Bluetooth interfaces
- 4. Built-in data buffer (data can be received and buffered while printing)
- 5. Control of external devices like cash registers through peripheral device drive circuit
- 6. Barcode
- 7. Support of various print density settings (by changing DIP switch settings)

It is advisable to read the contents of this manual carefully before using the printer for the first time.

#### **\*** Use only authorized supplies that can be trusted!

- We are not responsible for quality and service for damage caused by the use of unauthorized products (or recycled ones).
- The following Bluetooth mark and QD ID B021701 is only applicable to models with the Bluetooth SIG qualification.



We at Bixolon Co., Ltd. constantly strive to improve product functions and quality. To do this, the specifications of our product and the contents of the manual may change without prior notice.

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## **1. Installing Printer and Getting Started**

#### 1-1 Unpacking

Check the following contents list, and contact your dealer for assistance if any item is missing or incorrect.



#### 1-2 Interface

Connect the printer to the host computer using the right interface cable that complies with the specifications of the interface. The drawer to be used with the printer should meet the specifications of the printer.

#### **\* CAUTIONS**

Before connecting any cables, make sure that both the printer and the host are turned off.

1-2-1 USB Interface



No.	Signal Name	Designation (Color)	Function
Shell	Shield	Drain Cable	Frame Ground
1	VBUS	RED	Host Power
2	D-	WHITE	Data Line (D-)
3	D+	GREEN	Data Line (D+)
4	GND	BLACK	Signal Ground

#### 1-2-2 Ethernet Interface

Pint No.	Signal Name	Color	Function
1	TD+	WHITE ORANGE	Transmit +
2	TD-	ORANGE	Transmit -
3	тст	WHITE GREEN	Receive +
4	NC	BLUE	
5	NC	WHITE BLUE	
6	RCT	GREEN	Receive -
7	RD+	WHITE BROWN	
8	RD-	BROWN	

\* IP and MAC information can be obtained from the self-test. Refer to the Ethernet User's Manual that is available from the BIXOLON website for more detailed information.

\* For using this interface in the Bluetooth or WLAN applied product, Printer wiring requires to use double shielded (Cat 7) Ethernet cable.

#### 1-2-3 Serial Interface(RS-232C)

#### 1-2-3-1 Single Interface



#### 1-2-3-2 Dual Interface



Host Side

(9P)

Shield

2 (RXD)

3 (TXD)

8 (CTS)

(RTS)

6 (DSR)

(S.G)

7

5



Pin No.	Signal Name	Direction	Function
Main	Frame GND	-	Frame Ground
2	TXD	Output	Data Transmission
3	RXD	Input	Data Reception
6	DSR	Input	<ul> <li>This signal shows whether the host computer can receive data (hardware flow control).</li> <li>1) MARK (Logic 1): The host computer can receive data.</li> <li>2) SPACE (Logic 2): The host computer cannot receive data.</li> <li>3) After checking the signal in the printer, it transmits data to the host.</li> <li>4) When XON/XOFF flow control is selected, the printer does not confirm this signal.</li> </ul>
7	Signal GND	-	Signal Ground
20	DTR	Output	<ul> <li>This signal shows whether the printer works or not (hardware flow control).</li> <li>1) MARK (Logic 1): Printer is working.</li> <li>2) SPACE (Logic 2): Printer is not working.</li> <li>3) After checking the signal in the printer, it transmits data to the host.</li> <li>4) When XON/XOFF flow control is selected, the printer does not confirm this signal.</li> </ul>
Shield	Frame GND	-	Frame Ground



Pin No.	Source	Compatibility Mode	Nibble Mode	
1	Host	nStrobe	HostClk	
2	Host/Printer	Data 0 (LSB)	-	
3	Host/Printer	Data 1	-	
4	Host/Printer	Data 2	-	
5	Host/Printer	Data 3	-	
6	Host/Printer	Data 4	-	
7	Host/Printer	Data 5	-	
8	Host/Printer	Data 6	-	
9	Host/Printer	Data 7 (MSB)	-	
10	Printer	Nack	PtrClk	
11	Printer	Busy	PtrBusy /Data3,7	
12	Printer	Perror	AckDataReq/Data2,6	
13	Printer	Select	Xflag/Data1,5	
14	Host	nAutoFd	HostBusy	
15	-	NC	NC	
16	-	GND	GND	
17	-	FG	FG	
18	Printer	Logic-H	Logic-H	
19~30	-	GND	GND	
31	Host	nInit	nInit	
32	Printer	nFault	nDataAvail/Data0,4	
33		GND	ND	
34	Printer	DK_Status	ND	
35	Printer	+5V	ND	
36	Host	nSelectIn	1284-Active	

#### 1-2-5 Wireless LAN Interface

1) WIREless LAIN Communication Specificatio
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Item	Specifications
Frequency	2.412~2.484 GHz
Channel	Channel 1~13
Protocol	802.11b, 802.11g, 802.11n

#### 2) Connecting Wireless LAN

Printer can be connected to terminal devices with wireless LAN communication capability (PDA, PC, smartphone, tablet PC, etc.).

\* Refer to the Wireless LAN Connection Manual for more detailed instructions about how to establish the connection.

#### 1-2-6 Bluetooth Interface

#### 1) Bluetooth Communication Specifications

Item	Specifications
Frequency	2.402 ~ 2.480 GHz
Version	2.1 + EDR
Module Type	Class 1

#### 2) Bluetooth Connection

Printer can be connected to terminal devices with Bluetooth communication capability (PDA, PC, smartphone, tablet PC, etc.)

\* Refer to the Bluetooth Connection Manual for more detailed instructions about how to establish the connection.

1-2-7 Powered USB Interface

Pin No.	Signal Name	Function		
Shield	Shield	Prevent Noise		
1	PGND	Main Power Ground		
2	VPP24V	Main Power		
3	GND	Signal ground		
4	D+	Data Line (D+)		
5	D-	Data Line (D-)		
6	VBUS	Host Power		
7	VPP24V	Main Power		
8	PGND	Main Power Ground		

\* Refer to www.powered.org for detailed information related to the specifications of cable and connector.

\* Do not apply SMPS 24V when using powered USB.

(Powered USB uses its own power.)

\* In case of using Powered USB interface, the other USB interface provided by default is not useful. (In this case, USB communication is only available through the Powered USB)

#### 1-3 Drawer Cable



Connect the cash drawer connecting cable to the cash drawer connector located in the back of the printer.

#### **\* WARNING**

Use a cash drawer that meets the printer specifications. Using an improper cash drawer may cause faults in the cash drawer and the printer.

#### **\* CAUTIONS**

Do not connect a telephone line to the drawer kick-out connector. Otherwise, the telephone line and the computer may be damaged.

Pin No.	Signal Name	Direction
1	Frame Ground	-
2	Drawer Kick-out Drive Signal 1	Output
3	Drawer Open/Close Signal	Input
4	+24V	-
5	Drawer Kick-out Drive Signal 2	Output
6	Signal Ground	-

#### **1-4 Setting Dip Switches**

#### 1-4-1 Serial Interface

DIP Switch 1

SW	Function	ON	OFF	Default
1-1	Auto Line Feed	Enabled	Disabled	OFF
1-2	Flow Control	XON/XOFF	DTR/DSR	OFF
1-3	Data Length	7-bit	8-bit	OFF
1-4	Parity Check	Yes	No	OFF
1-5	Parity Selection	EVEN	ODD	OFF
1-6	Poud Poto Soloction			OFF
1-7	bauu Kale Selection	Refer to the following Table 1		ON
1-8	(ops)			OFF

#### • DIP Switch 2

SW	Function	ON	OFF	Default
2-1	Reserved	-	-	OFF
2-2	Reserved	-	-	OFF
2-3	Internal Bell Control	Disabled	Enabled	OFF
2-4	Auto Cutter Selection	Disabled	Enabled	OFF
2-5	Brinting Density	Pofor to the fol	OFF	
2-6	Printing Density	Refer to the following Table 2		OFF
2-7	Near End Sensor Control	Disabled	Enabled	OFF
2-8	Auto External Buzz	Enabled	Disabled	OFF

#### 1-4-2 Parallel / USB / Ethernet / Wireless LAN / Powered USB Interface

• DIP Switch 1

SW	Function	ON	OFF	Default
1-1	Auto Line Feed	Enabled	Disabled	OFF
1-2	Reserved	-	-	OFF
1-3	Reserved	-	-	OFF
1-4	Reserved	-	-	OFF
1-5	Reserved	-	-	OFF
1-6	Reserved	-	-	OFF
1-7	Reserved	-	-	ON
1-8	Reserved	-	-	OFF

#### • DIP Switch 2

SW	Function	ON	OFF	Default
2-1	Reserved	-	-	OFF
2-2	Reserved	-	-	OFF
2-3	Internal Bell Control	Disabled	Enabled	OFF
2-4	Auto Cutter Selection	Disabled	Enabled	OFF
2-5	Brinting Density	Pofor to the fol	lowing Table 2	OFF
2-6	Printing Density	Relei to the for	iowing table 2	OFF
2-7	Near End Sensor Control	Disabled	Enabled	OFF
2-8	Auto External Buzz	Enabled	Disabled	OFF

#### 1-4-3 Bluetooth Interface

#### DIP Switch 1

SW	Function	ON	OFF	Default
1-1	Auto Line Feed	Enabled	Disabled	OFF
1-2	Reserved	-	-	OFF
1-3	Reserved	-	-	OFF
1-4	Reserved	-	-	OFF
1-5	Bluetooth mode	iOS	Normal	OFF
1-6	Reserved	-	-	OFF
1-7	Reserved	-	-	ON
1-8	Reserved	-	-	OFF

#### • DIP Switch 2

SW	Function	ON	OFF	Default
2-1	Reserved	-	-	OFF
2-2	Reserved	-	-	OFF
2-3	Internal Bell Control	Disabled	Enabled	OFF
2-4	Auto Cutter Selection	Disabled	Enabled	OFF
2-5	Brinting Donaity	Pofor to the fol	lowing Table 2	OFF
2-6	Finding Density		iowing Table 2	OFF
2-7	Near End Sensor Control	Disabled	Enabled	OFF
2-8	Auto External Buzz	Enabled	Disabled	OFF

#### • Table 1 – Baud rate (bps) Selection

Transmission Speed	1-6	1-7	1-8	Default
2400	ON	OFF	OFF	
4800	ON	OFF	ON	
9600	OFF	ON	OFF	
19200	OFF	OFF	OFF	9600
38400	OFF	ON	ON	
57600	OFF	OFF	ON	
115200	ON	ON	ON	

#### • Table 2 – Print Density Selection

Printing Density	2-5	2-6	Default
Level 1	OFF	OFF	
Level 2	ON	OFF	- Level 1 is default
Level 3	OFF	ON	<ul> <li>Level 4 darkest</li> </ul>
Level 4	ON	ON	

#### 1-5 Installing & Replacing Paper

#### **\* CAUTIONS**

Be sure to use paper rolls that meet the specifications. Do not use paper rolls that have the paper glued to the core because the printer may not detect the paper end correctly.

1-5-1 Make sure that the printer is not receiving data; otherwise, data may be lost.

1-5-2 Open the paper roll cover by pressing the Cover-Open button.



#### **\* CAUTIONS**

Do not open the print cover while the printer is operating, otherwise the printer may be damaged.

1-5-3 Remove any existing used paper roll core when replacing the paper roll

1-5-4 Insert the paper roll as shown in the following picture.



1-5-5 Check the orientation of the roll paper when inserting it into the printer.



1-5-6 Pull out a small amount of paper as shown in the picture, and close the cover.



#### **\* CAUTIONS**

When closing the cover, hold down the center of printer cover firmly so that paper roll is loaded correctly.

1-5-7 Cut the paper as shown in the following picture.



#### **1-6 Recommended Papers**

- TF50KS-E (Paper Thickness: 65µm): Nippon Paper Industries Co., Ltd.
- PD 160R (Paper Thickness: 75µm): New Oji Paper Mfg. Co., Ltd.
- P350 (Paper Thickness: 62µm): Kansaki Specialty Paper, Inc. (USA)

#### **\* CAUTIONS**

Use of papers other than those recommended above may damage TPH or degrade the printing quality and our company is not responsible for the damage caused by non-recommended papers. If you have to use other products, we recommend that you use papers with a similar level of quality to the recommended ones.

#### 1-7 Structure of 2 inches specification.

#### **\* NOTE**

This setting can be changed from VMSM Utility.

#### **\* CAUTIONS**

The changes for 2 inches specification should be applied to the following components as well.



#### 1-8 Removing Paper Jam

- 1-8-1 When a paper jam occurs, turn the printer off and then back on, open the cover, and remove the jammed paper.
- \* In case of a minor jam, it may be possible that the operating blade returns to the original position and cover can be opened simply by turning the printer off and then back on.

Follow the steps shown below if the cover does not open after power cycling.

- 1-8-2 Turn the printer off.
- 1-8-3 Separate the cover-cutter while pressing down both sides as shown in the following picture.
- 1-8-4 Turn the knob and insert the blade that sticks out using a cross-head screwdriver as shown below.
- 1-8-5 Press the Cover-Open button, open the cover, remove the jammed paper, and assemble the separated COVER-CUTTER.
- 1-8-6 Turn the printer on and use it.



#### 1-9 Adjusting Paper Near-end Sensor Setting

SRP-350/352plusIII Series printer has built-in near-end sensors that provides an alarm signal when the paper has run almost to the end. SRP-350/352plusIII Series can be configured as wall mounted or desktop operation and the settings of the paper near-end sensor should be adjusted accordingly.

Adjust the near end sensor tab to either side so that the near end sensor is set properly for wall mounted or desktop operation.



#### **1-10 Using Printer Functions**

**Control Panel** 



#### 1-11 Connecting a Computer

Use the cable that comes with the printer to connect the printer to computers.

- 1-11-1 Plug the cable connector securely into the printer's interface connector located in the back of the printer.
- 1-11-2 Tighten the screws on the cable connector.



1-11-3 Attach the other end of the parallel cable to the computer.

#### **1-12 Connecting Power Supply**

#### **※ CAUTIONS**

When connecting or disconnecting the power supply to and from the printer, make sure that the power supply adapter is unplugged from the electrical outlet. Otherwise you may damage the power supply or the printer.

If the power supply's rated voltage and your outlet's voltage do not match, do not plug in the power cord and contact your dealer for assistance. Otherwise, you may damage the power supply or the printer.

- 1-12-1Make sure that the printer's power switch is turned off, and the power supply's power cord is unplugged from the electrical outlet.
- 1-12-2 Check the label on the power supply to make sure that the voltage required by the power supply matches that of your electrical outlet.
- 1-12-3 Plug in the power supply's cable as shown below. Notice that the flat side of the plug faces down.



#### **\* NOTE**

If you want to remove the power cord, grab the arrow part of the connector securely and pull it straight out.

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## 2. Self-Test

The self-test checks whether the printer has any problems. If the printer does not function properly, contact your dealer. The self-test procedure is as follows:

- 2-1 Make sure paper roll has been installed properly.
- 2-2 Turn on the power while holding down the FEED button and the self-test begins.
- 2-3 The self-test prints the current status of the printer including control ROM version and the DIP switch settings.
- 2-4 After printing the current printer status, the printer wait for the next step after printing the following lines. (The paper signal light keeps blinking.)

#### SELF-TEST PRINTING. PLEASE PRESS THE FEED BUTTON.

- 2-5 Press the FEED button to continue printing. The printer prints a form using the built-in character sets that can be printed.
- 2-6 The self-test ends automatically and the printer cuts the paper after printing the following line.

#### \*\*\* COMPLETED \*\*\*

2-7 The printer is ready to receive data for normal operation upon completion of self-test operation.

## 3. Hexadecimal Dumping

This function allows experienced users to see exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump function, follow these steps.

- 3-1 After making sure that the printer is off, open the cover.
- 3-2 Turn the printer on, while holding down the FEED button.
- 3-3 Close the cover, and then the printer enters the hexadecimal dump mode.
- 3-4 Select the hexadecimal printing function in the mode selection menu to move to the hexadecimal printing mode.
- 3-5 Run any software program that sends data to the printer. The printer will print all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

1B	21	00	1B	26	02	40	40	40	40	. ! & . @ @ @ @
02	0D	1B	44	0A	14	1E	28	28	28	D ( ( (
00	01	0A	41	0D	42	0A	43	43	43	A . B . C C C

- A period (.) is printed for each code that has no ASCII equivalent.

- During the hex dump, all commands except DLE EOT and DLE ENQ are disabled.

3-6 When the printing finishes, turn off the printer.

3-7 Turn on the printer and then the hexadecimal mode is off.

## 4. Specifications

Printing Method		Thermal transfer printing			
Dot Donoity		SRP-350plusIII: 180 dpi (7dots/mm)			
Dot Density		SRP-352plusIII: 203 dpi (8dots/mm)			
Drinting Width		3 inches	72 mm		
		2 inches	48 mm		
Poll Width		3 inches	79.5±0.5 mm		
		2 inches	57.5±0.5 mm		
		SRP-350plusIII			
No. of Characters	s per Line (Default Value)	: 42 (Font A), 56 (Fo	ont B), 56 (Font C)		
		SRP-352plusIII			
		: 48 (Font A), 64 (Fo	ont B), 64 (Font C)		
Printing Speed		SRP-350plusIII: Max.	300 mm/sec		
		SRP-352plusIII: Max.	270 mm/sec		
Receiving Buffer	Size	4K bytes			
<b>※ NOTE</b>					
Printing speed	may become slightly slower of	lepending on the data	transmission speed		
and the combi	nation of commands.				
	SMPS Input Voltage	100~240 VAC			
Supply Voltage	Frequency	50/60 Hz			
	SMPS Output Voltage	24 VDC			
	To some overfunde	Operating: 0 ~ 45 ℃			
Environment	Temperature	Storage: -20 ~ 60 ℃			
Condition		Operating: 10 ~ 80 % RH			
Condition	Humidity	Storage: 10 ~ 90 % RH			
	,	Paper excluded			
Life Creen	Printer Head *)	150 Km			
Life Span	Auto Cutter	1,800,000 cuts			
MCBF	Printer Mechanism *)	70,000,000 lines			

- \*) The specifications were determined based on operation at normal temperature using designated paper on default settings. They are subject to change depending on temperature or printing level.
- \*) The specifications were tested according to standard reliability. If you want to test the product to determine its life cycle, please contact us for more details and comply with the standard reliability for testing.
- \* These values may vary with environment temperature, printing level, etc.
- \* The switch is the disconnecting device. Turn off switch from any hazard.

## 5. Appendix

#### **5-1 Cleaning Printer**

Paper dust inside the printer may lower the print quality. In this case clean the printer as follows:

5-1-1 Open the printer cover and remove any paper.

5-1-2 Clean the print head with a cotton swab moistened with alcohol solvent.

5-1-3 Clean the paper sensor and paper roller with a cotton swab and a dry cloth.

5-1-4 Insert a paper roll and close the printer cover.

The remaining amount of paper detected by paper near-end sensor varies with the diameter of the paper core. To set the paper near-end sensor, contact your dealer.